Policy Dynamics and Electoral Uncertainty in the Appointments Process*

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Abstract
By incorporating electoral uncertainty and policy dynamics into three two-period models of the appointments process, we show that gridlock may not always occur under divided government, contrary to the findings of static one-shot appointments models. In these cases, contrary to the ally principle familiar to students of bureaucratic politics, the president or the confirmee is willing to move the court away from his or her ideal point as a way to insulate against worse outcomes in period two. By demonstrating how a simple set of changes to a workhorse model can change equilibrium outcomes significantly, this paper provides a foundation for reconsidering the static approach to studying political appointments.

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1 Introduction

It is well-established that behavior by political actors is conditioned by expectations about future interactions. This “shadow of the future” (Axelrod, 1984) has been modeled extensively in many areas of political science such as crisis bargaining (e.g., Fearon, 1998) and legislative policymaking (e.g., Baron, 1996; McCarty, 2000; Kalandrakis, 2004; Battaglini and Coate, 2007; Duggan and Kalandrakis, 2012). Despite this progress, dynamic analysis has been noticeably absent in studies of the appointments process.\footnote{For exceptions, see Jo (n.d.) and Hollibaugh (2015). Scholars often reference the long-term dynamics inherent in appointments, but they do not model these dynamics explicitly. For instance, in a model of appointments to the National Labor Relations Board, Snyder and Weingast (2000, 281) write, “Our model thus implies that the implementation of a new regime’s policy goals might not be immediate. It may take a series of appointments before a regime’s target policy becomes evident in the observed policy of the agency.” Krehbiel (2007, 238) writes, “The simple one-period move-the-median model of appointments speaks most directly to incremental, short-term variation, but it would be a mistake to reason that, because the average appointment has a small bearing on policy, the overall long-term effects of such appointments are likewise small. Viewed dynamically, the move-the-median framework also illustrates how an equilibrium appointment to fill a [vacancy which is not immediately policy-consequential] nevertheless sets up larger-than-otherwise-possible change when the next [immediately policy-consequential] vacancy occurs. History has a way of producing medium-term partisan presidential regimes that confer opportunities for multiple consecutive appointments for one party’s presidents.” Krehbiel allows for an endogenous status quo in earlier versions of his paper, but does not consider dynamics in the way that we do. Chang (2001), in studying Federal Reserve appointments, accounts for multiple nomination opportunities, but the ultimate policy outcome is selected by the players prior to voting on the nominations, the nominations occur in close succession, and they do not involve the possibility for an intervening election between them. Rohde and Shepsle (2007) explicitly call for further study of how multiple nomination opportunities shape the bargaining environment.} This is ironic, since the decisions made by political appointees, especially judges, affect policymaking for years and even decades into the future, in part by moving policy and setting precedents, thereby influencing future bargaining by changing the location of the status quo.

This paper focuses on two important forward-looking aspects of the appointments process left out of previous models—elections and the possibility of future vacancies. We construct three two-period models in which the president and Senate (confirmer) bargain over a political appointment. In the first model, there is an intervening election between period one and period two, and both the president and confirmer can be ousted during the election. If an agreement is not reached in the first period, the vacancy carries over to the next period, and bargaining continues for one more period after the election. In the second model, instead of an election, we allow for the possibility that there is a second nomination in the second period (regardless of whether the initial vacancy carries over to the second period). In the third model, we consider how these two features interact.

We show that both mechanisms help explain how “gridlock,” or the inability to move the court median,
can be broken in the appointments process under divided government (where the president and the Senate’s pivotal voter are on opposite sides of the court median), and related, why presidents and confirmers may be willing to support a nominee that moves the court away from their ideal points. These results are at odds with those in a standard one-shot spatial bargaining model, where gridlock is the norm under divided government (e.g., Lemieux and Stewart, 1991; Moraski and Shipan, 1999; Johnson and Roberts, 2005; Krehbiel, 2007; Rohde and Shepsle, 2007; Primo, Binder and Maltzman, 2008). This limitation is acknowledged by Rohde and Shepsle (2007), who write that this “anomaly” ought to be resolved by future modeling efforts. (In what follows, we discuss the appointments process in terms of courts and judges. In the conclusion, we discuss how the models’ logic could be extended to other multimember bodies.)

In addition to helping us understand the importance of dynamics in the appointments process, the models in this paper also contribute to the “ally principle” (Bendor and Meirowitz, 2004) literature. The ally principle holds that, all else equal, a principal delegating responsibility to an agent should appoint somebody as close to the principal’s ideal point as possible. There have been numerous challenges to the ally principle, mostly in a bureaucratic context, that account for the role played by interest group lobbying (Bertelli and Feldmann, 2007), competing principals (McCarty, 2004), and bureaucratic hierarchy (Jo and Rothenberg, 2014), among other factors. From the perspective of the president, elections affect the ally principle logic in a nominations context by creating the possibility that somebody else will get to propose the nominee if the president doesn’t get his nominee through—and that the “somebody else” will be hostile to his preferences. Multiple vacancies, meanwhile, introduce the possibility of exogenous shifts in the status quo in ways that hurt the president, making a move-the-median appointment today more attractive.

For tractability, we make several assumptions in our modeling efforts. First, we assume just one confirmer—a single pivotal senator—rather than considering multiple pivots. Second, we assume that courts make decisions in a simple median voter setting. Third, we assume that an appointee’s ideology remains constant over time. Fourth, we solve a two-period rather than an infinite-horizon version of the model. Fifth, we place some modest restrictions on the location of the president, confirmer, and court median’s ideal points. These assumptions do not affect the bargaining environment in ways that meaningfully alter
our main findings.

Even with all of these simplifications, the models produce a set of interrelated insights into the dynamics of appointments bargaining in situations where one-shot models produce gridlock. Policy change in two-player bargaining models can only occur when it is a Pareto improvement—it makes at least one player better off and no player worse off compared with maintaining the status quo. Krehbiel (2007) presents two necessary and jointly sufficient conditions for moving the median in a one-shot appointments model: the vacancy on the court is on the opposite side of the court median from the president, and the president and the confirmer are on the same side of the court median (what we will call “unified government”). In our dynamic framework, neither condition is necessary for policy change to occur.

The case of divided government is the key to understanding the contribution of our models. In a one-shot model, gridlock occurs under divided government because at least one player will be made worse off by a change in policy away from a status quo that lies between the ideal points of the two players. Once a second period is introduced, however, players may be willing to take a short-term utility hit in order to be better off in the long run, if the nature of the bargaining environment may be different in the future. (If there is no possibility of a change in the bargaining environment, then Primo (2002)’s finding that the number of periods has no effect on the equilibrium outcome would apply.) As a result, gridlock is broken by the shadow of the future—specifically, the threat that a new president or confirmer could shift the court in undesirable ways, or that an additional vacancy could likewise move the court in an unfavorable direction. Who benefits and who is harmed by a shift to a dynamic setting will depend on a variety of factors, including the location of the vacancy relative to the players, election probabilities, and the likelihood of future vacancies.

The next section features a numerical example demonstrating the importance of the future in shaping behavior. We then turn to a presentation of the models, key results, and intuitions for our findings. We conclude the paper by discussing the implications of our findings for the study of political appointments.
2 Appointments Bargaining and the Shadow of the Future

To fix ideas, consider a nine-member court consisting of judges \( j_i, i = 1, 2, 3, ..., 9 \), whose ideal points are equally spaced at intervals of .25 from \(-1\) to \(1\), inclusive, in a policy space \([-1, 1]\), with the median justice \( j_5 \), located at 0. Suppose that \( j_9 \) resigns, making it impossible for the remaining judges to shift policy from the median (since in this case, no group of five judges can ever agree to move policy away from 0 under standard spatial modeling assumptions). Let the confirmer be located at \(-.5\), the president at \(.5\), and assume both have quadratic utility functions with no discounting. In a static world, both the president and the pivotal senator should be indifferent among all nominees whose ideal points lie between 0 and 1, since an appointee in this interval will have no effect on policy, with the median remaining at 0. Gridlock is the result.

Note that adding an infinite number of identical periods to this game does not change the equilibrium outcome, as long as bargaining is not costly and players are not perfectly patient (Primo, 2002). Introducing elections or the possibility of an additional vacancy in future periods, however, alters Primo’s result because the two players now are facing an uncertain future bargaining environment—either the personnel may be different, there may be an additional vacancy, or both.

Consider the simple case of a two-period model with an election. To see why appointments within \([0, 1]\) are not necessarily optimal in this setting, suppose that after the first period, there is an election that with equal probability keeps the current president in office or replaces her with a president with an ideal point at \(-.5\). If the nominee in period one is rejected, the nomination battle will carry over to period two. Assume that no new vacancy occurs in the second period.

Under these circumstances, suppose the president in round one makes an appointment at 0, the left-most appointee acceptable to him in the one-shot case. Then, the new court has judges with ideal points at \(-1, -.75, -.5, -.25, 0, .25, .5, \) and \(.75\). Thus, no movement of the median occurs regardless of the election result. The current president’s utility from proposing a judge at 0, then, is \(-2(0 - .5)^2\). Notice that if the president were to propose anything to the left of 0, his utility would be strictly lower.
It turns out, however, that this is not the actual choice the president faces, because a strategic confirmer would reject an offer of zero. She does no worse in the current period by rejecting a nominee at 0 (either way the median is at 0), but by doing so creates the potential for a beneficial move-the-median opportunity in the next period if a president more in line with the confirmer’s preferences is elected.

Gridlock does not result, however. The Senate’s confirmer will accept a nominee that shifts the court slightly to the left—in this case, to about \(-0.05\)—because this provides her with a benefit today that compensates her for giving up the possibility of a “move-the-median” opportunity in period two. And, the president prefers accommodation to gridlock since accommodation protects him from an even worse outcome if he is not reelected.\(^2\) We will now turn to a more general set of results for the election model before turning to two additional models.

3 Model 1: One Vacancy and an Election

Two players, the president (P) and the confirmer (C), play a two-period appointment game, \(t = 1, 2\). The policy space \(X = [\underline{x}, \overline{x}]\) is a closed interval on the real line. At period \(t = 1, 2\), the president and confirmer have ideal points at \(P_t\) and \(C_t\), respectively. There are three possible ideological locations for each player: \(P_t \in \{P_L, P_M, P_R\}\) and \(C_t \in \{C_L, C_M, C_R\}\). We refer to situations in which \(C\) and \(P\) are both left-wing or both right-wing as “unified government,” and refer to situations in which one player is left-wing and the other is right-wing as “divided government.”

Each player’s stage utility is \(u(-|q - I_1|)\) where \(q\) is the policy at the given time and \(I_1\) is player \(I\)’s ideal point at \(t = 1\). Assume \(u\) is strictly increasing and concave. Utility in period 2 is discounted by \(\delta \in (0, 1]\). There are \(2n + 1\) members \((n \geq 1)\) on the court at the beginning of the game with ideal points \(y_1 \leq y_2 \leq \ldots \leq y_{2n+1}\). All ideal points in the model are common knowledge.

The game proceeds as follows. At the beginning of \(t = 1\), a judge is randomly removed, creating an appointment opportunity. Assume that \(y_i\) is removed at the beginning of \(t = 1\). The status quo after the

\(^2\)If the president does not put up a nominee, his utility will be \(-(0.05)^2 - 0.5(0 - 0.5)^2 - 0.5(-0.25 - 0.5)^2 \approx -0.66\). On the other hand, if someone with ideal point \(-0.05\) is appointed, the president’s utility will be \(-2(-0.05 - 0.5)^2 \approx -0.61\). The president therefore prefers an appointment at \(-0.05\) to no appointment.
vacancy occurs in the first period is denoted by \( q_0 \). Note that since it is impossible for five judges to agree to move policy away from the initial status quo, \( y_n \), the status quo does not change when a single vacancy occurs. That is, \( q_0 = y_{n+1} \). Given \( q_0 \), the president either nominates a judge with ideal point \( x \) to fill the vacancy and the confirmr decides whether to approve the nominee, or the president chooses not to make a nomination (which is equivalent to a failed nomination).

There is an election for both the president and confirmr after the first period. (If the president is in his second term, we can interpret the election as being about whether his party will remain in the presidency.) At \( t = 2 \), the new president’s ideal point is \( P_2 = P_L \) with probability \( \alpha_L \), \( P_2 = P_R \) with probability \( \alpha_R \), and \( P_2 = P_M \) with probability \( \alpha_M = 1 - \alpha_L - \alpha_R \). Assume that \( C_2 = C_L \) with probability \( \beta_L \), \( C_2 = C_R \) with probability \( \beta_R \), and \( C_2 = C_M \) with probability \( \beta_M = 1 - \beta_L - \beta_R \). To avoid trivial cases, assume that \( \alpha_L, \beta_L, \alpha_R, \beta_R > 0 \). In both periods, assume that \( P_L \leq y_{n-1} < y_n < y_{n+1} = P_M < y_{n+2} < y_{n+3} \leq P_R \) and \( C_L \leq y_{n-1} < y_n < y_{n+1} = C_M < y_{n+2} < y_{n+3} \leq C_R \). In the case of a left-wing or right-wing president, define a “presidential ally” as a judge on the same side of the median as the president.

If the nomination in period 1 is successful, then all seats are filled prior to the beginning of \( t = 2 \), creating a new status quo \( q_1 \). The players receive policy utilities from \( q_1 \) for both periods.

If the nomination in period 1 fails, \( q_1 = q_0 \). In the second period, the newly elected president either nominates a judge with ideal point \( x \) to fill the vacancy and the new confirmr decides whether to confirm the nominee, or the president chooses not to make a nomination. The outcome of period 2 produces a new status quo, \( q_2 \), with the players receiving policy utilities from \( q_1 \) in the first period and from \( q_2 \) in the second period. The sequence of the game is depicted in Figure 1.

In presenting the results of the model in the next section, we omit cases in which either the president or

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3If \( n = 1 \), \( y_{n-1} \) and \( y_{n+3} \) can be ignored, but the results are otherwise unaffected.

4We can modify the model so that the president is allowed to propose another nominee in the first period (before the election) if his initial nominee is rejected by the confirmr. This has no meaningful effect on the outcome, however, because the president and the confirmr are playing a complete information game. If the president prefers filling the seat, he will prefer doing it sooner rather than later. Thus, his first attempt should be successful. If he wants to maintain the vacancy, then he will either do nothing or keep nominating candidates who will be rejected by the confirmr. In the equilibrium to our model, the president will always nominate someone who can be accepted by the confirmr (see Propositions A.1 and A.2).

5The model could be extended for more periods—including an infinite horizon—with intervening elections. The effect of doing so would be to amplify the move-the-median effect, as additional elections create more opportunities for “bad” outcomes where the other party could control the nomination decision.
Figure 1: Sequence of the Appointments Game with an Election (P: President, C: Confirmer). For presentational purposes, we do not depict a situation in which the president chooses not to propose a nominee.
the confirmer is moderate in the first period, in order to focus attention on the cases in which the players are clearly unified or divided in the first period. (We still allow these players to be moderate for the second period.) Including the cases with moderate players in the first period does not add more insight and merely complicates the presentation of the results. Furthermore, without loss of generality, we assume in the proofs that $C_1 = C_L$ (the case with $C_1 = C_R$ is solved identically), and in what follows most of our explanations focus on the case where $C_1 = C_L$.

4 Results

4.1 Equilibrium

We solve the game by backward induction. (Propositions and associated proofs for all results are presented in the Appendix.) If the players successfully fill the vacancy in the first period, the new median will be maintained until the end of the game. If they fail, then the second period players bargain to fill the same vacancy. Consider the latter case. If the president and the confirmer are on opposite sides of the court median at the beginning of period two (after the election occurs), then no change in the court median is possible, regardless of the location of the vacancy, since any change in the median makes at least one of the players worse off. If the president and the confirmer are on the same side of the court median and the vacancy is also on that side of the median, no movement in the median can occur. If the vacancy is on the other side of the court median as both the president and confirmer, or if the vacancy is at the median and the president and confirmer are on the same side of the median, then the court median will shift toward the president and confirmer. Note that a single vacancy can result in a movement of the court median only within the range $[y_n, y_{n+2}]$; in other words, an appointment can shift the median at most to the justice immediately to the left or immediately to the right of the existing median $y_{n+1}$.

Given the second period equilibrium strategies, the president and the confirmer bargain to fill a vacancy in the first period. Propositions A.1 and A.2 provide formal statements of the confirmer’s and proposer’s equilibrium strategies at $t = 1$, and we now explain the logic behind these results.
4.2 The Confrmer’s Equilibrium Strategy in Period 1

The confirmer (weakly) prefers nominees with ideal points closer to hers. For a liberal confirmer, any nomination to the left of the threshold $x_i^*$ is acceptable. Thus, a threshold characterizes the confirmer’s strategy. The threshold values are determined based on the ideological position of the removed judge, reelection probabilities, and the relative ideological positions of the remaining judges and the confirmer. Although the threshold is a complicated function of many parameters, when the removed judge is not the initial median (i.e., when $y_i$ is removed at $t = 1$ and $i \neq n + 1$), we can establish the location of the threshold relative to the initial median, regardless of the other parameter values. We discuss how these parameters affect the equilibrium point predictions in sections 4.4 through 4.7.

Figure 2 graphically shows the confirmer’s equilibrium strategy. When the vacancy is on the same side of the current median as the confirmer, as in Figure 2(a), she confirms any nominee who is more liberal than $x_i^*$. Interestingly, and in contrast with a one-shot game, the threshold $x_i^*$ is to the right of the current median, which means the confirmer is willing to accept a nominee who will move the court median to the right. By doing so, the confirmer loses some utility for the first period, relative to rejecting any nomination to the right of the median, but she increases her expected utility for the second period because the possibility
of realizing the worst-case scenario after rejecting a nominee in the first period—the median moving to $y_{n+2}$ in period 2—can be eliminated by appointing someone with ideal point $x^*_i$. As shown in the figure, $x^*_i$ is closer to the confirmer than $y_{n+2}$. If the confirmer rejects $x^*_i$, the court median in the second period will move to $y_{n+2}$ when both the new president and confirmer are right-wing. On the other hand, if she confirms $x^*_i$, the median at the end of the second period will remain at $x^*_i$, even if the new president and confirmer are both right-wing. Accepting a more conservative nominee for a left-wing vacancy is not irrational once second-period utility is considered. The confirmer is simply trading current utility for future (discounted) utility.

When the vacancy is on the opposite side of the median from the confirmer, the confirmer accepts nominees if they are to the left of $x^*_i$, as in Figure 2(b). As shown in the figure, this threshold is to the left of the current median. Why would the confirmer reject someone just as moderate as the median? In a one-shot game, she is indifferent between rejecting and confirming such a nominee. However, a non-myopic confirmer is made strictly better off by rejecting the nominee. If she confirms someone with ideal point $y_{n+1}$, the median will remain at $y_{n+1}$ until the end of the game. On the other hand, if she rejects this nominee and the vacancy carries over to the next period, the median at the end of period 2 will at worst remain at $y_{n+1}$, and if the president and the confirmer are both left-wing, will shift to $y_n$. Since the probability of both the president and the confirmer being left-wing at $t = 2$ is positive, rejecting the nominee with ideal point $y_{n+1}$ is strictly better than confirming. For this reason, the nominee needs to be more liberal than the current median to be accepted by a left-wing confirmer when the vacancy is on the right side of the median.

### 4.3 The President’s Equilibrium Strategy in Period 1

Given the confirmer’s strategy, the president chooses his nominee. Just like the confirmer, the president (weakly) prefers nominees closer to his ideal point. When there is sufficient preference disagreement between the president and the confirmer (divided government), the president’s optimal proposal is unique, in part because of the confirmer’s strategy. For example, Figure 3 depicts a situation in which a right-wing president’s choice is restricted by a left-wing confirmer. In the figure, $p^*$ denotes the point at which the president is
indifferent between an appointment and no appointment. The president strictly prefers appointing anyone more conservative than $p^*$ to maintaining the vacancy. In fact, the president’s expected utility monotonically increases as the appointee’s ideal point approaches $y_{n+2}$. However, the left-wing confirmer will not confirm any nominee to the right of $x^*_i$. Thus, $x^*_i$ is the president’s unique optimal proposal location.

To be sure, there are cases in which the president can choose any point he likes without any meaningful restrictions. For instance, Figure 4 depicts a case in which both the president and the confirmer are left-wing and the vacancy is to the left of the median. As shown in the figure, the president is willing to propose judges to the left of $p^*$. Since the confirmer is willing to accept any point to the left of $x^*_i$, the president’s choice is unrestricted by the confirmer’s preferences. In this case, the president is indifferent over any appointee from the median leftward. Thus, the equilibrium choice is not unique.

Since the president always picks someone whose ideal point is within the range acceptable to the confirmer, no nominees are rejected on the equilibrium path. Moreover, the equilibrium choice is unique when there is sufficient preference disagreement between the president and the confirmer—i.e., in times of divided
government. In most one-period appointment models, players are indifferent over a wide range of ideological positions in nearly all situations. In fact, equilibrium proposals are never unique in a one-shot appointments model except in the case of unified government and a vacancy at the median. For example, consider a situation in which the president is conservative (i.e., $P_1 = P_C$) and the confirmer is liberal (i.e., $C_1 = C_L$) in a one-shot game. If $y_1$, the most liberal judge, retires, both players are indifferent over an appointment that is at or to the left of the current status quo, because any new appointment in this range does not move the median.

However, in our model, the equilibrium appointment is unique under the same conditions because, unlike in a one-shot model, the outcome of the first period affects the possibilities for period two. If a nominee is approved, then no additional nomination opportunity arises in period two. If a nominee is rejected in the first period, however, then another round of bargaining over the vacancy occurs in period two. In the one-shot model, the location of the appointment matters only for the current period, and many appointments will result in the same median. In the two-period model with elections, two additional factors are at play.
First, the location of an appointment in period one has an effect on the expected utilities for the second period. Second, if a nomination fails in period 1, elections that can change personnel create the possibility of a move-the-median opportunity in period 2, and therefore strategies in period one are conditioned on those expectations.

4.4 Moving the Median Under Divided and Unified Government

Thus far, we have established the equilibrium strategies for the confirmer and proposer and shown that equilibrium proposals are unique only under divided government. While the median always moves under divided government, an equilibrium appointment may or may not change the current median under unified government. From Propositions A.1 and A.2, we can easily determine the conditions under which the median moves in equilibrium.

**Remark 1 (Move-the-Median Conditions).**

(i) When a judge to the left of the court median is removed at $t = 1$, the median after the bargaining at $t = 1$ is to the right of the initial status quo under divided government ($q_1 \in (q_0, y_{n+2})$) or a unified right-wing government ($q_1 = y_{n+2}$). It stays at $q_0$ under a unified left-wing government.

(ii) When a judge to the right of the court median is removed at $t = 1$, the median after the bargaining at $t = 1$ is to the left of the initial status quo under divided government ($q_1 \in (y_n, q_0)$) or a unified left-wing government ($q_1 = y_n$). It stays at $q_0$ under a unified right-wing government.

(iii) If the current court median is removed at $t = 1$, the median after the bargaining at $t = 1$ is to the left of the initial status quo ($q_1 = y_n$) under a unified left-wing government and to the right of the status quo ($q_1 = y_{n+2}$) under a unified right-wing government. Under divided government, the movement of the median will depend on other parameter values.

Remark 1 considers three cases: a first-period vacancy to the left of the court median, a vacancy to the right of the court median, and a vacancy located at the court median. Under divided government, a necessary condition for a movement in the court median is some electoral competition ($\alpha_L, \beta_L, \alpha_R, \beta_R > 0$). In the
When \( y_i, i \leq n + 1 \), is removed at \( t=1 \)

\[
\begin{array}{lll}
\text{Parameter} & \text{One-shot Model} & \text{Dynamic Model} \\
(P_1, C_1) = (P_L, C_L) & q_1 = q_0 & q_1 = q_0 \\
(P_1, C_1) \in \{(P_L, C_R), (P_R, C_L)\} & q_1 = q_0 & q_1 = x^* \in (q_0, y_{n+2}) \\
(P_1, C_1) = (P_R, C_R) & q_1 = y_{n+2} & q_1 = y_{n+2} \\
\end{array}
\]

When \( y_i, i > n + 1 \), is removed at \( t=1 \)

\[
\begin{array}{lll}
\text{Parameter} & \text{One-shot Model} & \text{Dynamic Model} \\
(P_1, C_1) = (P_R, C_R) & q_1 = q_0 & q_1 = q_0 \\
(P_1, C_1) \in \{(P_L, C_R), (P_R, C_L)\} & q_1 = q_0 & q_1 = x^* \in (y_n, q_0) \\
(P_1, C_1) = (P_L, C_L) & q_1 = y_n & q_1 = y_n \\
\end{array}
\]

Table 1: Location of the Court Median After the First Period of Bargaining

In the one-shot game, the conditions for policy change to occur are very restrictive. The initial status
quo cannot be between $P_1$ and $C_1$ and the vacancy cannot be on the same side of $q_0$ as $P_1$ and $C_1$. Thus, if a judge to the left of the court median retires, the median will move to the right only when both the president and confirm are conservative, and stay at $q_0$ under the other ideological configurations. Likewise, if a judge to the right of the court median is removed, the median will move to the left of $q_0$ only when both the president and confirm are liberal. If we add just one more time period with elections, however, the median moves away from $q_0$ even when the status quo is between the two players’ ideal points, and even if the two players are extremely polarized.

Moreover, as shown in Remark 1 (i), the median may move to the right under a liberal president when facing a conservative confirm (i.e. $(P_1, C_1) = (P_L, C_R)$). And, a liberal confirm does not stop a conservative president from moving the median to the right. That is, $q_1 > q_0$ when $(P_1, C_1) = (P_R, C_L)$ if a liberal judge is removed. This is because the conservative player would not want to have $x$ on the court if $x$ is more liberal than $q_0$, and the liberal player strictly prefers having $x > q_0$ on the court to maintaining the vacancy, since moving the median to the right insulates the liberal player from an even worse outcome if a unified conservative government takes over in the next period and the vacancy is still open.

When the initial median is removed, things are more complicated. If both the president and the confirm are right-wing, the median moves to the right. If both the president and the confirm are left-wing, the median moves to the left. In other cases, however, the median can move to the right or to the left depending on parameter values, such as the relative positions of the judges adjacent to the median and the probability distribution over the second-period players’ ideological positions.

Notice that all results under unified government in this model are largely unchanged from a static setup. This is because under unified government, players with a move-the-median opportunity will want to move the median as close as possible to their ideal points (subject to the configuration of judicial ideal points) immediately, since this is the best outcome they can achieve in the model. As a result, in what follows we explore how the model’s parameters affect bargaining under divided government.
4.5 Elections and Bargaining Leverage Under Divided Government

To understand how equilibrium appointments are affected by changing political circumstances, we need to know how the threshold which partitions nominees who are acceptable and unacceptable to the confirmer, denoted by \( x_i^* \), changes as other important parameters—electoral prospects of the president and confirmer, the position of the vacancy, and players’ patience—vary.

We first establish how the electoral prospects for the president and the confirmer affect equilibrium strategies. In doing this, we consider variations in the president’s reelection probability and the confirmer’s reelection probability separately (i.e., we do not consider simultaneous changes in \( \alpha \) and \( \beta \)).

The proof of Proposition A.3 establishes that, as the likelihood of a non-conservative president or confirmer becomes more likely, the range of acceptable nominees for a liberal confirmer narrows (i.e., the threshold \( x_i^* \) shifts to the left), which implies in turn that the range of acceptable nominees for a conservative confirmer increases. The intuition is simple. If a liberal confirmer believes that it is less likely that a conservative will hold the presidency in the next period, she can demand a more liberal appointee in the first period. Furthermore, as the election draws closer (i.e., \( \delta \) increases), the expectation on the election result plays a more powerful role in determining the threshold, as Proposition A.3 shows. These findings are summarized in the next remark.

**Remark 2** (Elections and Bargaining Leverage). *When a conservative president faces a liberal confirmer, he appoints more liberal judges when it is more likely that his party will lose in either election. When a liberal president faces a conservative confirmer, increased optimism about the election leads him to appoint more liberal judges. These effects are more pronounced as the election draws closer.*

To understand this remark, recall that the point \( x_i^* \) is chosen in equilibrium when \( (P_1, C_1) = (P_R, C_L) \). As the likelihood of a conservative president decreases, this threshold shifts to the left. So, when a conservative president faces a liberal confirmer, he has to nominate more liberal judges as the likelihood he (or his party) loses reelection increases. He cannot do better because if the current confirmer who is more liberal than the status quo expects the future president to be liberal, she will reject conservative offers and wait until
the next period. Likewise, a liberal president facing a conservative confirmer nominates more liberal judges the more optimistic he is about his (or his party’s) reelection. The conservative confirmer will accept more liberal nominees because things are likely to be worse in the future.

To sum up, if the president’s party is more likely to win the election and the confirmer is on the opposite side of the current court median, the president can nominate a judge closer to his ideal point. On the contrary, if the opposition party’s winning probability goes up and the confirmer is on the opposite side of the current court median, then the president will have to appoint a judge closer to the confirmer’s ideal point.

4.6 Election Proximity Under Divided Government

Another component of the election in our model is proximity, captured by the $\delta$ term in the utility functions for both the president and the confirmer. The higher is $\delta$, the closer the election is, and the less important the first period is relative to the second period. We discussed the interplay of proximity and reelection probabilities in the last subsection, and we now explore the timing of elections more fully.

As the election approaches (i.e., $\delta$ increases), the acceptance threshold shifts to the right if the vacancy is to the left of the court median, and it shifts to the left if the vacancy is to the right of the court median. These shifts reflect the increased value of the second period as $\delta$ increases. In the case of a left-wing vacancy, the liberal confirmer knows that the median will remain at the current position, at best, and may move to the right with positive probability if the current nomination fails. When the future is more important, she will want to avoid the latter case. Thus, she will be willing to accept a less desirable appointment in the first period, which implies $x^*_1$ increases. On the other hand, if the vacancy is to the right of the court median, a liberal confirmer will not accept a nominee in the first period unless the nominee is closer to her because the expected utility from rejecting the current nomination increases as $\delta$ increases. Thus, $x^*_2$ needs to be more liberal. The changes in the threshold are depicted in Figure 5. When the median is removed in the first period, the future median could be to the right or the left of the current median if the current nomination

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6 The discount factor $\delta$ could be also interpreted as the patience of players.
fails. Thus, depending on other parameter values, the threshold may increase or decrease.

**Remark 3** (The Effect of Election Proximity on Presidential and Confirmer Utilities). (a) Under divided government, an increase in $\delta$ improves the equilibrium outcome for the president and worsens the outcome for the confirmer when the vacancy and the president are on opposite sides of the court median.

(b) Under divided government, an increase in $\delta$ worsens the equilibrium outcome for the president and improves the outcome for the confirmer when the vacancy is on the same side of the court median as the president.

Two interesting implications flow from this remark. First, if a presidential ally retires (for example, when the president is conservative and $y_i, i > n + 1$, retires), a confirmer on the opposite side of the status quo will force the median toward her ideal point. If the current nomination fails, the future median will either be the same or move closer to the confirmer. The confirmer’s bargaining leverage therefore is strengthened, which is why the equilibrium $x$ is closer to the confirmer than the current status quo. This shift will be even more pronounced as the election draws closer, as the president will need to concede more to the confirmer when the future is more important.
Second, if an ideological enemy retires (for example, when the president is conservative and \( y_i, i < n + 1 \), retires), the president has a bargaining advantage even when the confirmer is on the opposite side of the status quo. If the current nomination fails, the future median will either be the same or move closer to the president. Thus, if the president’s offer is little bit better than the worst-case scenario, the confirmer is willing to accept it. This is why \( x \) is closer to the president than the current status quo. As \( \delta \) increases, the president can move \( x \) even closer to his ideal point because the future is more important. And, of course, the extent of the advantage or disadvantage conferred by election proximity will be affected by how well the president’s party is likely to do in those elections.

These results suggest that a president facing a hostile Senate would rather have an ally retire early in his term and an enemy retire late in his term. More generally, as elections draw closer, bargaining over appointments is increasingly conducted in the shadow of the impending elections, with reelection probabilities becoming more important in determining the outcome of the bargaining process.

### 4.7 Vacancy Location Under Divided Government

In the last subsection, we showed how the impact of election proximity depends on the location of the vacancy, and we explore the role of vacancy location further in this subsection. Figure 6 illustrates how the location of the vacancy affects outcomes under divided government. As shown in the figure, if the most liberal judge, \( y_1 \), is removed, the confirmer will accept a relatively conservative nominee. As the removed judge’s ideological position changes from \( y_1 \) to \( y_5 \), and to \( y_9 \), she wants the nominee to be more liberal. Since the president strictly prefers nominees with ideal points closer to his, in equilibrium he selects a nominee at the threshold. Thus, the nominee’s ideal point moves farther away from the president as the removed judge’s position moves closer to him.

In the one-shot game, if the vacancy occurs on the president’s side of the initial court median, the president at best can maintain the status quo. But if the vacancy occurs on the opposite side, then he may be able to move the median closer to him. Similar intuition applies here. If a presidential ally retires, the new median cannot be closer to the president. Knowing this, the confirmer who does not share the president’s
ideology will reject the nomination unless the nominee’s ideal point is close enough to her. On the contrary, if an ideological enemy of the president retires, the future median might be closer to the president if the current appointment fails. Thus, the confirmer will be willing to accept the nominee who is not preferred to the current median just to avoid the future median being even worse. This finding is summarized in the next remark.

**Remark 4 (Ideological Proximity Hurts the President).** *Under divided government, the president’s bargaining power weakly decreases the closer the vacancy is to his ideal point.*

### 5 Model 2: Multiple Vacancies and No Election

We now consider a two-period model in which there are no elections but a new vacancy occurs in period 2 with some positive probability (\(\gamma\)), irrespective of whether the vacancy in period 1 is filled. Additionally, let \(\eta_j\) denote the probability that the removed judge is the \(j\)th judge given that a new vacancy occurs in the second period (i.e., \(\eta_j = \Pr(y_j \text{ is removed at } t = 2 | \text{a new vacancy occurred at } t = 2)\)). Thus, \(\sum_{j=1, j \neq i}^{2n+1} \eta_j = 1\), where \(i\) denotes the judge who is removed at \(t = 1\). Assume \(\eta_j > 0\) for all \(j \neq i\). For simplicity, we assume that the probability of a newly appointed judge being removed at \(t = 2\) is zero. As before, we assume that the confirmer is liberal (\(C_1 = C_L\)).
Proposition A.6 specifies the location of the median after the first period of bargaining. Notably, the new median \( q_1 \) moves in the same direction as in the previous model in which there is an election but no new vacancy in period 2. Although the direction of the movement is the same, the mechanisms differ. Unlike the single vacancy case, two vacancies can change the status quo policy without any new appointment. Consider the situation in which the first period nomination fails. If there is no new vacancy in the second period, the status quo remains at \( y_{n+1} \). However, if a second vacancy arises in the second period, the median might be changed even if no one is appointed at \( t = 1 \). For example, if \( y_n \) is removed at \( t = 1 \), \( y_{n+1} \) is removed at \( t = 2 \), and no one is appointed at \( t = 1 \), then the status quo at the beginning of the second period is \( y_{n+2} \). That is, if two left-wing judges are removed, policy outcomes will shift to the right since the judges on the right side of the initial median now form a majority.

Therefore, if a left-wing confirmer faces a right-wing president when a vacancy occurs on the left side of the median, she cannot reject a nominee who is a little more conservative than the initial median \( q_0 \). If she does, and if a new vacancy again occurs on her side of the initial median at \( t = 2 \), the status quo moves to the right, \( y_{n+2} \), and a conservative president would never nominate someone more liberal than \( y_{n+2} \). To avoid this worst-case scenario, the liberal confirmer would accept some appointees to the right of the median.

Similarly, when a vacancy occurs on the right side of the median, a right-wing president facing a left-wing confirmer would willingly nominate someone more liberal than the initial median to keep the median from moving to \( y_n \) in the next period. Specifically, if the first-period bargaining fails, the median will move to \( y_n \) if a non-right-wing judge is removed in the second period, which happens with probability \( \sum_{j=n+1}^{2n+1} \eta_j \). If no new vacancy occurs, the median will remain at \( y_n \).

Thus, as in Model 1, the player with the bargaining advantage is the one on the side of the median opposite the vacancy because he or she can move the median closer to his or her own ideal point in the first period. The extent to which the median moves increases with the probability of an additional vacancy, \( \gamma \).
6 Model 3: Elections and Multiple Vacancies

Finally, we consider a “full” model which features reelection uncertainty as well as the possibility of a new vacancy in the second period. All other related assumptions remain the same.

Proposition A.7 states the location of median after the first period of bargaining. Under unified government, the outcomes are the same as the other models in the paper: the president proposes a nominee that shifts the court as close to his ideal point as feasible, given the configuration of judges’ ideal points. When we consider divided government, however, the results of the third model deviate from the previous models, and the location of the new median depends on parameter values. Recall that in the two previous models, the median moves to the right for a left-wing vacancy, and to the left for a right-wing vacancy. Even though electoral uncertainty and vacancy uncertainty move the median in the same direction in isolation, when the two uncertainties are combined, we need more information to determine the direction of movement in the median.7

For example, consider a liberal confirm and a conservative president with $y_1$ being removed at $t = 1$. If the president nominates someone slightly more conservative than the initial median, similar to the results in the previous models, what would the confirm do? If the first period nomination fails, the median in the second period could shift to $y_{n+3}$ in the worst-case scenario for the confirm under which both the new president and confirm are right-wing and a new vacancy again occurs on the left side of the median. In the best-case scenario under which both the new president and confirm are left-wing and a new vacancy occurs on the right side of the median at $t = 2$, the new median will shift to $y_n$. Therefore, depending on which scenarios are more likely, as well as how costly the “bad” scenarios are relative to the upside of “good” ones, the confirm may or may not reject a nominee who is more conservative than the initial median.

Do the findings of Model 3 imply that our earlier findings with regard to divided government, the shadow of the future, and the ally principle lack robustness? No. Instead, this model demonstrates how multiple mechanisms may operate simultaneously, and that when they do, they may place countervailing pressures

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7 Note that although the location of the median is different from that of the first model, the comparative statics in Propositions A.3, A.4, and A.5 still hold.
on the players. It does not change the fact that gridlock is broken, and that the proposer and confirmer are still trading off the relative benefits of making an appointment today versus waiting until tomorrow to do so.

7 Discussion

Our models provide a new perspective on the political appointments process. The president, when determining the optimal nomination to make in period one, and the Senate, when deciding whether to accept the president’s nomination, have to take into account the likelihood that the identity of the president and the confirmers will remain the same, or that additional vacancies will occur. The addition of dynamics breaks gridlock compared to one-shot accounts of the nominations process. In fact, the cases in which gridlock seems intuitively most likely—when the president and Senate are on opposite sides of the court median—produce equilibrium outcomes that move the median.

In our model, unlike others, the president is sometimes forced to nominate a judge that moves the court median away from his ideal point, and the confirmers must sometimes accept a nomination that moves the court median away from her ideal point. This is a necessary consequence in situations when the status quo is between the ideal points of the two players, yet policy shifts; by construction, one player has to be made worse off (in the short-run) compared with the status quo. We have already discussed the logic for this result, but there is another way to think about models with elections and/or multiple vacancies: in such models, the second period is essentially a lottery that is a function of the first-period nomination. The first-period nomination decision by the president, and the decision by the confirmers to appoint or reject the nominee, take into account both the near-term effects on policy as well as the effect on the second-period lottery. We have shown how exogenous factors—electoral prospects, weighting of the future, and the location of vacancies—affect equilibrium outcomes in part by influencing the value of the second-period lottery. For instance, presidents who are electorally pessimistic may sometimes need to moderate their appointments.

When considering competing models, it is often tempting to ask, which is the “best” or “correct” model?
We believe this is the wrong question to ask. Instead, it is better to think of these models as demonstrating how the shadow of the future affects bargaining in the appointments process, and how it is important to consider mechanisms both in isolation and combined in order to assess their effects.

In terms of scope, this set of models is most appropriate for studying appointments to the federal and appellate bench and to regulatory agencies or commissions that make decisions in a multimember setting and that do not have party-based requirements or norms for appointees. In particular, our models are especially useful for explaining appointments to institutions with members who serve for a fixed term and cannot be replaced for political reasons. The application to agencies or commissions is limited, however, by the president’s ability to move the status quo through recess appointments, although our model could be adapted to account for such appointments.

Our model lays the foundation for future research, as well. We focus here on only on spatial considerations, but other factors may affect nomination battles, including candidate quality (Martinek, Kemper and Winkle, 2002), race (Asmussen, 2011), horse-trading over nominations (Epstein and Segal, 2005), the president’s willingness to use political capital to push a nomination through the Senate (Johnson and Roberts, 2004), the president’s desire to appoint members of the same party to judgeships, strategic delays in the process (Jo, n.d.), and the possibility of strategic retirements (Spriggs and Wahlbeck, 1995; Nixon and Haskin, 2000; Zorn and Winkle, 2000; Ward, 2003; Hansford, Savchak and Songer, 2010). Epstein and Segal (2005) also note that electoral and party considerations sometimes factor into nominations; one example is Nixon’s strategy of nominating a Southern (Democratic) justice to the Supreme Court—Lewis F. Powell, Jr.—in advance of the 1972 elections, which was unusual given the preference of presidents to appoint members of the same party to judgeships. These features—race, capital, endogenous elections, and partisan considerations—are promising candidates for incorporation into future dynamic models of judicial appointments.
References


A Appendix: Propositions and Proofs

To solve the game, we need to consider the first period players’ utilities. If the nominee in the first period is not confirmed, the position will still be vacant in the second period. Let \( v \) denote this event. Let \( U_I (v; I_1, y_i) \) denote the expected utility that player \( I \in \{ P, C \} \) receives in this event \( v \) given the player’s ideal point \( I_1 \) and the removed judge’s position \( y_i, i \in \{1,...,n\} \). Likewise, let \( U_I (x; I_1, y_i) \) be the expected utility that player \( I \in \{ P, C \} \) gets when \( x \) is appointed at \( t = 1 \), given the player’s ideal point \( I_1 \) and the removed judge’s position \( y_i \).

Define

\[
F_I (x; I_1, y_i) = U_I (x; I_1, y_i) - U_I (v; I_1, y_i).
\]

The function \( F_I (x; I_1, y_i) \) shows how much player \( I \)’s utility is improved by having the nominee \( x \) on the court. Note that if \( F_I (x; I_1, y_i) \geq 0 \), we have \( U_I (x; I_1, y_i) \geq U_I (v; I_1, y_i) \). Thus, if \( F_C (x; C_1, y_i) \geq 0 \), confirming \( x \) is better than rejecting \( x \) for the confirmer. Likewise, if \( F_P (x; P_1, y_i) \geq 0 \), the president prefers getting \( x \) confirmed than doing nothing. Throughout the proofs, we assume that \( C_1 = C_L \). The case with \( C_1 = C_R \) is an exact mirror image.

**Proposition A.1** (The Confirmer’s Equilibrium Strategy). Suppose \( C_1 = C_L \) and \( y_i \) is removed at \( t = 1 \). Then, in every equilibrium, the confirmer accepts a nominee with ideal point \( x \) if and only if \( x \leq x_i^* \). Moreover, \( x_i^* \) satisfies

\[
\begin{align*}
x_i^* &\in (y_{n+1}, y_{n+2}) & \text{if } i < n + 1, \\
x_i^* &\in (y_i, y_{n+1}) & \text{if } i = n + 1, \text{ and} \\
x_i^* &\in (y_i, y_{n+2}) & \text{if } i > n + 1.
\end{align*}
\]

**Proof of Proposition A.1**

The proposition is proved if there is \( x^* \) in the range specified in the proposition such that \( F_C (x; I_1, y_i) \geq 0 \) if and only if \( x \leq x_i^* \).

**Part 1** \( x_i^* \in (y_{n+1}, y_{n+2}) \) if \( i < n + 1 \)

When \( y_i, i < n + 1 \) is removed, we have

\[
U_I (x; I_1, y_i) = \begin{cases} 
(1 + \delta) u ( - |y_{n+1} - I_1| ) & \text{if } x \leq y_{n+1}, \\
(1 + \delta) u ( - |x - I_1| ) & \text{if } y_{n+1} < x < y_{n+2}, \text{ and} \\
(1 + \delta) u ( - |y_{n+2} - I_1| ) & \text{if } x \geq y_{n+2},
\end{cases}
\]

and

\[
U_I (v; I_1, y_i) = (1 + \delta (1 - \alpha_R \beta_R)) u ( - |y_{n+1} - I_1| ) + \delta \alpha_R \beta_R u ( - |y_{n+2} - I_1| ).
\]

Note that \( u ( - |y_{n+2} - C_L| ) < u ( - |y_{n+1} - C_L| ) \) and \( \alpha_R \beta_R > 0 \). Also, note that \( F_C (x; C_L, y_i) \) is continuous
and weakly decreasing in $x$. Thus, $F_C(x; C_L, y_i) \geq 0$ if and only if $x \leq x_i^*$, where $x_i^*$ satisfies

$$u\left(-|x_i^* - C_L|\right) = \frac{1}{1 + \delta} \left\{ (1 + \delta (1 - \alpha_R \beta_R)) u\left(-|y_{n+1} - C_L|\right) + \delta \alpha_R \beta_R u\left(-|y_{n+2} - C_L|\right) \right\}, \quad x_i^* \in (y_{n+1}, y_{n+2}),$$

as needed.

**Part 2** $x_{n+1}^* \in (y_n, y_{n+2})$

When $y_{n+1}$ is removed, we have

$$U_I (x; I_1, y_i) = \begin{cases} (1 + \delta) u\left(-|y_n - I_1|\right) & \text{if } x \leq y_n, \\ (1 + \delta) u\left(-|x - I_1|\right) & \text{if } y_n < x < y_{n+2}, \quad \text{and} \\ (1 + \delta) u\left(-|y_{n+2} - I_1|\right) & \text{if } x \geq y_{n+2}, \end{cases}$$

and

$$U_I (v; I_1, y_i) = (1 + \delta (1 - \alpha_R \beta_R - \alpha_L \beta_L)) u\left(-|y_{n+1} - I_1|\right) + \delta \alpha_L \beta_L u\left(-|y_n - I_1|\right) + \delta \alpha_R \beta_R u\left(-|y_{n+2} - I_1|\right).$$

Note that $u\left(-|y_{n+2} - C_L|\right) < u\left(-|y_{n+1} - C_L|\right) < u\left(-|y_n - C_L|\right)$ and $\alpha_R \beta_R \alpha_L \beta_L > 0$. Thus, $F_C(x; C_L, y_i) \geq 0$ if and only if $x \leq x_{n+1}^*$, where $x_{n+1}^*$ satisfies

$$u\left(-|x_{n+1}^* - C_L|\right) = \frac{1}{1 + \delta} \left\{ (1 + \delta (1 - \alpha_R \beta_R - \alpha_L \beta_L)) u\left(-|y_{n+1} - C_L|\right) + \delta \alpha_L \beta_L u\left(-|y_n - C_L|\right) + \delta \alpha_R \beta_R u\left(-|y_{n+2} - C_L|\right) \right\}, \quad x_{n+1}^* \in (y_n, y_{n+2}),$$

as needed.

**Part 3** $x_i^* \in (y_n, y_{n+1})$ if $i > n + 1$

When $y_i$, $i > n + 1$ is removed, we have

$$U_I (x; I_1, y_i) = \begin{cases} (1 + \delta) u\left(-|y_n - I_1|\right) & \text{if } x \leq y_n, \\ (1 + \delta) u\left(-|x - I_1|\right) & \text{if } y_n < x < y_{n+1}, \quad \text{and} \\ (1 + \delta) u\left(-|y_{n+1} - I_1|\right) & \text{if } x \geq y_{n+1}, \end{cases}$$

and

$$U_I (v; I_1, y_i) = (1 + \delta (1 - \alpha_L \beta_L)) u\left(-|y_{n+1} - I_1|\right) + \delta \alpha_L \beta_L u\left(-|y_n - I_1|\right).$$

Note that $u\left(-|y_{n+1} - C_L|\right) < u\left(-|y_n - C_L|\right)$ and $\alpha_L \beta_L > 0$. Thus, $F_C(x; C_L, y_i) \geq 0$ if and only if $x \leq x_i^*$ where

$$u\left(-|x_i^* - C_L|\right) = \frac{1}{1 + \delta} \left\{ (1 + \delta (1 - \alpha_L \beta_L)) u\left(-|y_{n+1} - I_1|\right) + \delta \alpha_L \beta_L u\left(-|y_n - I_1|\right) \right\}, \quad x_i^* \in (y_n, y_{n+1}),$$

(3)
as needed.

Proposition A.2 (The President’s Equilibrium Strategy). In equilibrium, when $y_i$ is removed at $t = 1$, the president chooses

\[
\begin{align*}
  x & \in [x, y_{n+1}] & \text{if } & (P_1, C_1) = (P_L, C_L) \text{ and } i < n + 1, \\
x & \in [x, y_n] & \text{if } & (P_1, C_1) = (P_L, C_L) \text{ and } i \geq n + 1, \text{ and} \\
x & = x_i^* & \text{if } & (P_1, C_1) = (P_R, C_L).
\end{align*}
\]

Proof of Proposition A.2

Notice that the president picks $x \leq x_i^*$ which maximizes $U_P (x; P_1, y_i)$ and satisfies $F_P (x; P_1, y_i) \geq 0$.

Part 1 $(P_1, C_1) = (P_L, C_L)$

In this case, it is easy to see that $U_P (x; P_1, y_i)$ is maximized at $x \in [x, y_{n+1}]$ if $i < n + 1$ and $x \in [x, y_n]$ if $i \geq n + 1$. In this range, both $F_P (x; P_1, y_i) \geq 0$ and $x < x_i^*$ are satisfied.

Part 2 $(P_1, C_1) = (P_R, C_L)$

Now, since $P_1 = P_R$, $U_P (x; P_1, y_i)$ is strictly increasing between the $n$th and the $n + 1$th judges’ ideal points. Note that $x_i^*$ is in this range for all $i$, and that it is the rightmost point that can be accepted by the confirmer. Also, $F_P (x_i^*; P_1, y_i) > 0$ is satisfied. Therefore, the president chooses $x_i^*$.

Proposition A.3 (The Confirmer’s Strategy and Elections). Suppose $C_1 = C_L$. If (i) $\alpha_L$ and $\alpha_L + \alpha_M$ increase or (ii) $\beta_L$ and $\beta_L + \beta_M$ increase, $x_i^*$ decreases for all $i \in \{1, \ldots, 2n + 1\}$. Moreover, the effect of each of conditions (i) and (ii) on $x_i^*$ increases as $\delta$ increases.

Proof of Proposition A.3

We only prove for the case with a left vacancy. The other cases can be proved similarly. Recall that by (1) in the proof of Proposition A.1, $x_i^*$ satisfies

\[
\frac{d}{dx} \{ (1 + \delta (1 - \alpha_R \beta_R)) u (- |y_{n+1} - C_L|) + \delta \alpha_R \beta_R u (- |y_{n+2} - C_L|) \}, x_i^* \in (y_{n+1}, y_{n+2})
\]

when $i < n + 1$.

Rearranging gives

\[
u (- |x_i^* - C_L|) = (1 - w) u (- |y_{n+1} - C_L|) + \frac{\delta}{1 + \delta} \alpha_R \beta_R.
\]

Note that $u (- |y_{n+1} - C_L|) > u (- |y_{n+2} - C_L|)$ since each of the conditions (i) and (ii) reduces $\alpha_R \beta_R$, and therefore the weight $w$ on $u (- |y_{n+2} - C_L|)$, $x_i^*$ should decrease to satisfy the equality. Moreover, since $\frac{\partial^2 u}{\partial \delta \partial \alpha_R} = \frac{\partial^2 u}{\partial \delta \partial \beta_R} = \frac{1}{(1 + \delta)^2} > 0$, such an effect increases as $\delta$ increases.

Proposition A.4 (Ideological Proximity). When $(P_1, C_1) = (P_R, C_L)$, if the removed judge’s ideal point is closer to $P_1$, the nominee’s ideal point is (weakly) farther from $P_1$.

Proof of Proposition A.4

It suffices to show that $x_i^* \leq x_{n+1}^* \leq x_{i'}^*$, where $i > n + 1$ and $i' < n + 1$.

Part 1 $x_i^* \leq x_{n+1}^*$
The claim is proved if \( u(-|x_i^* - C_L|) \geq u(-|x_{n+1}^* - C_L|) \). By (3) and (2) in the proof of Proposition A.1, we have

\[
u(-|x_i^* - C_L|) - u(-|x_{n+1}^* - C_L|) = \frac{\delta \alpha_R \beta R}{1 + \delta} [u(-|y_{n+1} - C_L|) - u(-|y_{n+2} - C_L|)] > 0,\]

as required.

**Part 2** \( x_{n+1}^* \leq x_i^* \)

The claim is proved if \( u(-|x_{n+1}^* - C_L|) \geq u(-|x_i^* - C_L|) \). By (2) and (1), we have

\[
u(-|x_{n+1}^* - C_L|) - u(-|x_i^* - C_L|) = \frac{\delta \alpha_L \beta L}{1 + \delta} [u(-|y_n - C_L|) - u(-|y_{n+1} - C_L|)] > 0,\]

as required. \( \square \)

**Proposition A.5** (The Effect of Election Proximity on Conﬁrmer Acceptance Thresholds). Suppose \( C_1 = C_L \). If \( \delta \) increases,

1) \( x_i^* \) increases when \( y_i, i < n + 1, \) is removed at \( t = 1, \)
2) \( x_i^* \) decreases when \( y_i, i > n + 1, \) is removed at \( t = 1, \) and
3) \( x_i^* \) may increase or decrease depending on other parameter values, when \( y_{n+1} \) is removed at \( t = 1. \)

**Proof of Proposition A.5**

We only prove for the case with a left vacancy. The other cases can be proved similarly. Recall that by (1), \( x_i^* \) satisfies

\[
u(-|x_i^* - C_L|) = \frac{1}{1 + \delta} \{(1 + \delta (1 - \alpha_R \beta R)) u(-|y_{n+1} - C_L|) + \delta \alpha_R \beta R u(-|y_{n+2} - C_L|)\}, \quad x_i^* \in (y_{n+1}, y_{n+2})\]

when \( i < n + 1 \). Since \( u(-|y_{n+2} - C_L|) < u(-|y_{n+1} - C_L|) \), \( x_i^* \) moves toward \( y_{n+2} \) as \( \delta \) increases. \( \square \)

**Proposition A.6** (Model 2). In equilibrium, when \( y_i \) is removed at \( t = 1 \), the new median after the ﬁrst period, \( q_1 \), is as follows:

1) when \( (P_1, C_1) = (P_L, C_L) \), the new median \( q_1 \) stays at the initial status quo \( q_1 = y_{n+1} \) if \( i < n + 1 \), and moves to the left of the status quo \( q_1 = y_n \) if \( i \geq n + 1 \), and
2) when \( (P_1, C_1) = (P_R, C_L) \), the new median \( q_1 \) moves to the right of the status quo \( q_1 \in (y_{n+1}, y_{n+2}) \) if \( i < n + 1 \), to the left of the status quo \( q_1 \in (y_n, y_{n+1}) \) if \( i > n + 1 \). If \( i = n + 1 \), the location of the new median will depend on parameter values \( q_1 \in (y_n, y_{n+2}) \).

**Proof of Proposition A.6**

It is easy to see that when \( (P_1, C_1) = (P_L, C_L) \), it is optimal to move the median to the left immediately whenever possible. Thus, we prove only for the case in which \( (P_1, C_1) = (P_R, C_L) \) and \( i \leq n \). The remaining cases can be proved similarly.

When there is no new vacancy in the second period, the status quo remains at \( y_{n+1} \) if no one is appointed. However, since there is a new vacancy with probability \( \gamma \) in the second period, the median might be changed
when the second period vacancy occurs even if no one is appointed at \( t = 1 \). For example, if \( y_n \) is removed at \( t = 1 \) and \( y_{n-1} \) is removed at \( t = 2 \), and if no one is appointed at \( t = 1 \), the status quo in the second period is \( y_{n+2} \). Thus,

\[
U_I(x; I_1, y_i) = \begin{cases} 
(1 + \delta) u(-\vert y_{n+1} - I_1 \vert) & \text{if } x \leq y_{n+1}, \\
(1 + \delta) u(-\vert x - I_1 \vert) & \text{if } y_{n+1} < x < y_{n+2}, \\
(1 + \delta) u(-\vert y_{n+2} - I_1 \vert) & \text{if } x \geq y_{n+2},
\end{cases}
\]

and

\[
U_I(v; I_1, y_i) = u(-\vert y_{n+1} - I_1 \vert) \\
+ \delta \gamma \left( \sum_{j=1, j \neq i}^{n+1} \eta_j u(-\vert y_{n+2} - I_1 \vert) + \left( 1 - \sum_{j=1, j \neq i}^n \eta_j \right) u(-\vert y_{n+1} - I_1 \vert) \right) \\
+ \delta (1 - \gamma) u(-\vert y_{n+1} - I_1 \vert).
\]

It is easy to see that \( F_C(x; C_L, y_i) > 0 \) if \( x \leq y_{n+1} \) and \( F_C(x; C_L, y_i) < 0 \) if \( x \geq y_{n+2} \). Since \( F_C(x; C_L, y_i) \) is continuous and weakly decreasing in \( x \), there exists \( x_i^* \in (y_{n+1}, y_{n+2}) \) such that \( F_C(x; C_L, y_i) \geq 0 \) if and only if \( x \leq x_i^* \). Therefore, the confirmer accepts any \( x \leq x_i^* \). Moreover, since \( U_I(x; P_R, y_i) \) is weakly increasing and strictly increasing in \( x \in (y_{n+1}, y_{n+2}) \), the president proposes \( x_i^* \), which implies \( q_1 = x_i^* \). \( \square \)

**Proposition A.7 (Model 3).** In equilibrium, when \( y_i \) is removed at \( t = 1 \), the new median after the first period, \( q_1 \), is as follows:

1) when \((P_1, C_1) = (P_L, C_L)\), the new median \( q_1 \) stays at the initial status quo \((q_1 = y_{n+1})\) if \( i < n + 1 \), and moves to the left of the status quo \((q_1 = y_n)\) if \( i \geq n + 1 \),

2) when \((P_1, C_1) = (P_R, C_L)\), the location of the new median will depend on parameter values \((q_1 \in (y_n, y_{n+2}))\).

**Proof of Proposition A.7**

It is easy to see that when \((P_1, C_1) = (P_L, C_L)\), it is optimal to move the median to the left immediately whenever possible. If this is not possible, then appointing someone to the left of \( y_{n-1} \) at \( t = 1 \) is optimal because the situation might get worse in the next period if conservative players win the election.

When \((P_1, C_1) = (P_R, C_L)\), the median could move to the left or to the right of \( y_{n+1} \) depending on parameter values. To see this, consider the case in which \( y_i, i < n \), is removed at \( t = 1 \). Then, if \( y_n \leq x < y_{n+1} \),

\[
U_I(x; I_1, y_i) = u(-\vert y_{n+1} - I_1 \vert) + \delta (1 - \gamma) u(-\vert y_{n+1} - I_1 \vert) \\
+ \delta \gamma \left( \sum_{j=1, j \neq i}^{n} \eta_j ((1 - \alpha_R \beta_R) u(-\vert y_{n+1} - I_1 \vert) + \alpha_R \beta_R u(-\vert y_{n+2} - I_1 \vert)) \\
+ \eta_n (\alpha_L \beta_L u(-\vert x - I_1 \vert) + (1 - \alpha_R \beta_R - \alpha_L \beta_L) u(-\vert y_{n+1} - I_1 \vert) + \alpha_R \beta_L u(-\vert y_{n+2} - I_1 \vert)) \\
+ \sum_{j=n+2}^{2n+1} \eta_j (\alpha_L \beta_L u(-\vert x - I_1 \vert) + (1 - \alpha_R \beta_L) u(-\vert y_{n+1} - I_1 \vert)) \right),
\]

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and

\[ U_1(v; I_1, y_i) = u(-|y_{n+1} - I_1|) + \delta (1 - \gamma) u(-|y_{n+1} - I_1|) \]

\[ + \delta \gamma \sum_{j=1,j \neq i}^{n} \eta_j \left[ \begin{array}{c}
(\alpha_L \beta_L + \alpha_M \beta_M) u(-|y_{n+1} - I_1|) \\
+ (1 - \alpha_L \beta_L - \alpha_M \beta_M - \alpha_R \beta_R) u(-|y_{n+2} - I_1|) + \alpha_R \beta_R u(-|y_{n+3} - I_1|) \end{array} \right] \]

\[ + \delta \gamma \eta_{n+1} \left[ \begin{array}{c}
\alpha_L \beta_L u(-|y_n - I_1|) + \alpha_M \beta_M u(-|y_{n+1} - I_1|) \\
+ (1 - \alpha_L \beta_L - \alpha_M \beta_M - \alpha_R \beta_R) u(-|y_{n+2} - I_1|) + \alpha_R \beta_R u(-|y_{n+3} - I_1|) \end{array} \right] \]

\[ + \delta \gamma \sum_{j=n+2}^{2n+1} \eta_j \left[ \begin{array}{c}
\alpha_L \beta_L u(-|y_n - I_1|) + (1 - \alpha_R \beta_R - \alpha_L \beta_L) u(-|y_{n+1} - I_1|) \\
+ \alpha_R \beta_R u(-|y_{n+2} - I_1|) \end{array} \right]. \]

Thus, if \( \sum_{j=1,j \neq i}^{n} \eta_j \approx 0, \alpha_L \beta_L \approx 1 \), and the distance between \( y_n \) and \( y_{n+1} \) is great, there could be cases in which \( F_C(x_i^*; C_L, y_i) = 0 \), \( x_i^* \in (y_n, y_{n+1}) \). On the other hand, if \( \sum_{j=1,j \neq i}^{n} \eta_j \) is large, \( \alpha_L \beta_L \) is small enough, or \( y_n \) is very close to \( y_{n+1} \), the solution \( x_i^* \) will be in \( (y_{n+1}, y_{n+2}) \). \( \square \)

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